

PROPOSED EXAMPLE AMENDED CLAIMS:

1. (Proposed) In a battery-operated light comprising a first light source, a battery and a first switch in circuit for selectively energizing the first light source to produce light:
 - a source of a reference potential;
 - a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing only said first light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged;
 - a second light source that operates at a lower current than does said first light source to produce light; and
 - a second switch in circuit with the battery for selectively energizing said second light source to produce light, whereby the second light source may be energized by the battery after the comparator has de-energized the first light source.
7. (Proposed) In a battery-operated light comprising a first light source, a battery and a first switch ~~in circuit~~ for selectively energizing the first light source to produce light:
 - a source of a reference potential;
 - a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing only said first light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged,
wherein said comparator comprises a first transistor having a controllable conduction path ~~connected~~ in circuit with the battery and said first light source for energizing and de-energizing said first light source and having a control electrode to which said source of reference potential is coupled;
 - a second light source that operates at a lower current than does said first light source to produce light; ~~connected~~
 - a second switch ~~in circuit~~ with the battery for selectively energizing said second light source to produce light; and
 - a second transistor having a controllable conduction path connected in circuit with the battery and said source of reference potential and having a control terminal electrode coupled to the controllable conduction path of said first transistor,
whereby the second light source may be energized by the battery after the comparator has de-energized the first light source.

8. (Proposed) In a battery-operated light comprising a first light source, a battery and a first switch in circuit for selectively energizing the first light source to produce light:
 - a source of a reference potential;
 - a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing only said first light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged,
wherein said comparator comprises a first transistor having a controllable conduction path connected in circuit with the battery and said first light source for energizing and de-energizing said first light source and having a control electrode to which said source of reference potential is coupled;
 - a second light source that operates at a lower current than does said first light source to produce light; and
 - a second switch in circuit with the battery for selectively energizing said second light source to produce light,
wherein said second switch comprises a second transistor having a controllable conduction path connected in circuit with the battery and said second light source and having a control terminal electrode coupled to the controllable conduction path of said first transistor,
whereby the second light source may be energized by the battery after the comparator has de-energized the first light source.
11. (Proposed) In a battery-operated light comprising a first light source, a battery and a first switch in circuit for selectively energizing the first light source to produce light:
 - a source of a reference potential;
 - a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing only said first light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged;
 - a second light source that operates at a lower current than does said first light source to produce light;
 - a second switch in circuit with the battery for selectively energizing said second light source to produce light; and
 - a second transistor having a controllable conduction path connected in circuit with the battery and said second light source and having a control terminal electrode coupled to a controllable conduction path of a first transistor of said comparator, wherein said second transistor energizes said second light source responsive to said comparator

de-energizing said first light source when the battery potential is below the predetermined potential.

12. (Proposed) In a battery-operated light comprising an incandescent light source, a battery and a first switch in circuit for selectively energizing the incandescent light source to produce light:
 - a source of a reference potential;
 - a comparing circuit responsive to a potential produced by the battery and to the reference potential for de-energizing only said incandescent light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged;
 - a solid state light source; and
 - a second switch in circuit with the battery for selectively energizing said solid state light source to produce light independently of said first switch and/or when the battery potential is below the predetermined potential,
whereby the solid state light source may be energized by the battery after the comparing circuit has de-energized the incandescent light source.
18. (Proposed) In a battery-operated light comprising an incandescent light source, a battery and a first switch in circuit for selectively energizing the incandescent light source to produce light:
 - a source of a reference potential;
 - a comparing circuit responsive to a potential produced by the battery and to the reference potential for de-energizing only said incandescent light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged;
 - said comparing circuit comprising a first transistor having a controllable conduction path connected in circuit with the battery and said incandescent light source for energizing and de-energizing said incandescent light source and having a control electrode to which said source of reference potential is coupled;
 - a solid state light source;
 - a second switch in circuit with the battery for selectively energizing said solid state light source to produce light independently of said first switch, or to produce light when the battery potential is below the predetermined potential, or to produce light independently of said first switch when the battery potential is below the predetermined potential; and
 - a second transistor having a controllable conduction path connected in circuit

second terminal; and

a source of reference potential coupled between the second electrode of said first transistor and the control electrode of said second transistor;

wherein the second electrode of said second transistor is coupled to the control electrode of said first transistor and to said first terminal via a first load; and

wherein the controllable conduction path of said second transistor becomes non-conductive for de-energizing only the first load as a received battery potential decreases to a predetermined potential at which a battery providing the predetermined potential is not fully discharged; and

means for energizing a second load at least when the first load is de-energized by said second transistor becoming non-conductive,

whereby the second load may be energized by the received battery potential after the second transistor has de-energized the first load.

28. (Proposed) A power control for battery-operated apparatus comprising:

first and second terminals for receiving a battery potential;

a first switch having first and second ends, the first end thereof being coupled to said first terminal;

a first transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to said second terminal; and

a source of reference potential coupled between the second end of said first switch and the control electrode of said first transistor;

wherein the second electrode of said first transistor is coupled to said first terminal via a first load; and

wherein the controllable conduction path of said first transistor becomes non-conductive for de-energizing only the first load as a received battery potential decreases to a predetermined potential at which a battery providing the predetermined potential is not fully discharged; and

means for energizing a second load at least when the first load is de-energized by said first transistor becoming non-conductive,

whereby the second load may be energized by the battery after the first transistor has de-energized the first load.

29. (Proposed) A power control for battery-operated apparatus comprising:
- first and second terminals for receiving a battery potential;
 - a first switch having first and second ends, the first end thereof being coupled to said first terminal;
 - a first transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to said second terminal;
 - a source of reference potential coupled between the second end of said first switch and the control electrode of said first transistor;
 - wherein the second electrode of said first transistor is coupled to said first terminal via a first load; and
 - a second transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to a second load and the control electrode thereof being coupled to the second electrode of said first transistor.
- wherein the controllable conduction path of said first transistor becomes non-conductive for de-energizing only the first load as a received battery potential decreases to a predetermined potential at which a battery providing the predetermined potential is not fully discharged, and
- whereby the second load is energized by the received battery potential via the second transistor when the first transistor has de-energized the first load.
33. (Proposed) A power control for battery-operated apparatus comprising:
- first and second terminals for receiving a battery potential;
 - a first switch having first and second ends, the first end thereof being coupled to said first terminal;
 - a first transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to said second terminal;
 - a source of reference potential coupled between the second end of said first switch and the control electrode of said first transistor;
 - wherein the second electrode of said first transistor is coupled to said first

terminal via a load; and

a second transistor having a controllable conduction path coupled between the battery and said source of reference potential and having a control terminal electrode for controlling the conduction of the controllable conduction path thereof, the control electrode thereof being coupled to the controllable conduction path of said first transistor,

wherein the controllable conduction path of said first transistor becomes non-conductive responsive to the reference potential and a received battery potential for de-energizing only the load as a received battery potential decreases to a predetermined potential at which a battery providing the predetermined potential is not fully discharged.

34. (Proposed) In a battery-operated flashlight comprising a first light source, a battery and a first switch in circuit for selectively energizing the first light source to produce light:

a source of a reference potential;

a comparator responsive to a potential produced by the battery and to the reference potential for de-energizing only said first light source when the battery potential is below discharged to a predetermined potential, but is not fully discharged; and

a second light source that operates to produce light at a lower current than does said first light source, wherein said second light source is selectively operable from the battery to produce light at least after said comparator de-energizes said first light source,

whereby the second light source may be energized by the battery after the comparator has de-energized the first light source.

35. (Proposed) A power control for a battery-operated light comprising:

first and second terminals for receiving a battery potential;

a first switch having first and second ends, the first end thereof being coupled to said first terminal;

a transistor having a controllable conduction path between first and second electrodes and having a control electrode for controlling the conduction of the controllable conduction path thereof, the first electrode thereof being coupled to said second terminal;

a source of reference potential coupled between the second end of said first switch and the control electrode of said transistor;

a first light source for producing light when electrically energized;

wherein the second electrode of said first transistor is coupled to said first terminal via said first light source,

wherein the controllable conduction path of said transistor becomes non-conductive responsive to the reference potential for de-energizing only said first light source as a received battery potential decreases to a predetermined potential at which a battery providing the predetermined potential is not fully discharged;

a second light source for producing light when energized at a lower current than that required by said first light source to produce light; and

a second switch operable independently of said first switch,

wherein said second switch and said second light source are coupled between said first and second terminals for selectively energizing said second light source,

whereby the second light source may be energized by a received battery potential after the transistor has de-energized the first light source.

New Dependent Claims:

36. (Proposed) The battery-operated light of claim 1 wherein said comparator de-energizes said first light source by dimming said first light source over a time, thereby to mimic the battery approaching full discharge.
37. (Proposed) The battery-operated light of claim 7 wherein said comparator de-energizes said first light source by dimming said first light source over a time, thereby to mimic the battery approaching full discharge.
38. (Proposed) The battery-operated light of claim 8 wherein said comparator de-energizes said first light source by dimming said first light source over a time, thereby to mimic the battery approaching full discharge.
39. (Proposed) The battery-operated light of claim 11 wherein said comparator de-energizes said first light source by dimming said first light source over a time, thereby to mimic the battery approaching full discharge.
40. (Proposed) The battery-operated light of claim 12 wherein said comparing circuit de-energizes said incandescent light source by dimming said incandescent light source over a time, thereby to mimic the battery approaching full discharge.

41. (Proposed) The battery-operated light of claim 18 wherein said comparing circuit de-energizes said incandescent light source by dimming said incandescent light source over a time, thereby to mimic the battery approaching full discharge.
42. (Proposed) The battery-operated light of claim 21 wherein said comparing circuit de-energizes said incandescent light source by dimming said incandescent light source over a time, thereby to mimic the battery approaching full discharge.
43. (Proposed) The power control claim 22 wherein said second transistor de-energizes said first load over a time, thereby to mimic a battery approaching full discharge.
44. (Proposed) The power control of claim 28 wherein said first transistor de-energizes said first load over a time, thereby to mimic a battery approaching full discharge.
45. (Proposed) The power control of claim 29 wherein said first transistor de-energizes said first load over a time, thereby to mimic a battery approaching full discharge.
46. (Proposed) The power control of claim 33 wherein said first transistor de-energizes said first load over a time, thereby to mimic a battery approaching full discharge.
47. (Proposed) The battery-operated flashlight of claim 34 wherein said comparator de-energizes said first light source over a time, thereby to mimic the battery approaching full discharge.
48. (Proposed) The power control of claim 35 wherein said transistor de-energizes said first light source over a time, thereby to mimic a battery approaching full discharge.